

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Board of Patent Appeals and Interferences**

APPELLANTS: Srinivasamohan ) PATENT APPLICATION  
Narayanan, Bikash Kumar )  
APPLICATION NO.: 10/767,625 ) Group Art Unit: 2891  
FILED: January 28, 2004 ) Examiner: Douglas M.  
Menz  
FOR: IMPROVED PHOTOVOLTAIC CELL ) Attorney Docket No.:  
AND PRODUCTION THEREOF SL1207

**APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313

Sir:

This Brief is in support of the Notice of Appeal filed May 15, 2007, regarding the above-mentioned case. The requisite fee of \$510 is being paid via credit card.

A copy of the appealed claims is attached to this brief in Appendix A.

Real Party in Interest

The subject patent application has been assigned to BP Corporation North America Inc.

ANY ADDITIONAL FEES REQUIRED  
CHARGE TO DEPOSIT ACCOUNT  
NO. 01-0528

### Related Appeals and Interferences

Appellants are not aware of any other appeals or interferences which will directly affect or be affected or have a bearing on the Board's decision in this pending appeal.

### Status of Claims

Claims 17-21, 28 and 31 remain pending and have been finally rejected by the Examiner. Claims 1-16, 22-27, 29 and 30 have been withdrawn from consideration.

### Status of Amendments

There are no pending or outstanding amendments filed subsequent to final rejection.

### Summary of the Claimed Subject Matter

As per 37 C.F.R. 41.37 (v), there is one independent claim involved in this appeal, claim 17. Support for this claim can be found on page 6, lines 3-17 of the specification. Further support for step (a) of claim 17 can generally be found starting on page 8, line 22. Further support for step (b) of claim 17 can generally be found starting on page 9, line 16. Further support for step (c) of claim 17 can generally be found starting on page 10, line 15.

### Grounds of rejection to be reviewed on appeal

The issue presented on appeal is:

- 1) Whether Claims 17-21, 28, and 31 have been properly rejected under 35 U.S.C. 102 (b), as being anticipated by Safir (U.S. Pat. No. 5,665,175)?

## Argument

I. Rejection of Claims 17-21, 28, and 31 under 35 U.S.C. 102 (b) as being anticipated by Safir (U.S. Pat. No. 5665175)

In order for a prior art reference to anticipate a claim, the reference must teach every element of the claim, as stated in MPEP §2131.

Safir teaches a specific process sequence according to Figure 1 for the production of solar cells according to their invention (see Figure 1, and column 2, lines 57-59). Safir recites that "in step 122, the silicon wafer 1 shown in FIG. 2 is provided with a low doped silica layer 3, which may be done by any suitable technique, such as thick film printing technique, spinning, spraying and CVD" (see column 3, lines 45-49). The Examiner references this silica layer 3 as corresponding to step (b) of claim 17 of the Applicants' invention in the Office Action dated January 18, 2007. Safir also recites that "formation of the doped junction area 4 shown in FIG. 3 where the phosphorus particles used for formation of an N area come from the silica layer deposited in step 122, takes place in step 131" (see column 4, lines 29-33). The Examiner references this doped junction area 4 as corresponding to step (a) of claim 17 of the Applicants' invention in the Office Action dated January 18, 2007. As referenced in Figure 1 of Safir, step 131 occurs sequentially after step 122.

By contrast, the Applicants' invention teaches that its "surface coating is applied after the creation of the emitter layer and is disposed over the emitter layer at the front surface and preferably the edge surface, and more preferably over the edge surface and the periphery of the back surface" (see specification, page 9, lines 16-19). As discussed above in Safir, the coating step (step 122) occurs before formation of the doped junction area 4 (step 131). Safir teaches a different order of process steps as compared to claim 17 of the Applicants' invention, and hence, cannot be said to anticipate the process steps as taught in the Applicants' invention.

In view of the preceding, the Appellants' respectfully request the honorable Board to reverse the Examiner's rejection of Claim 17, and its dependent claims 18-21, 28, and 31.

Conclusion

For the reasons stated above, the Appellants' submit that all claims now presented are in a condition for allowance, and respectfully requests the honorable Board to reverse the Examiner's final rejection of these claims.

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Respectfully submitted,

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## Claims Appendix

17. A process for making a photovoltaic device using a substrate comprising silicon doped with a first dopant, the process comprising the steps of:

- (a) forming a first layer of the substrate at a front surface and at least one edge surface, the first layer comprising a second dopant of a conductivity type opposite the first dopant;
- (b) disposing over the first layer a surface coating such that a back surface of the substrate is free or substantially free of the surface coating; and
- (c) removing the second dopant from the back surface such that the back surface is free or substantially free of the second dopant.

18. The process according to Claim 17 further comprising the step of texturing the substrate.

19. The process according to Claim 18 further comprising the step of removing the texture from the back surface such that the back surface is substantially smooth.

20. The process according to Claim 19 further comprising the step of forming a back surface field.

21. The process according to Claim 17 wherein the surface coating comprises silicon nitride.

28. The process of Claim 17 wherein the surface coating is formed such that only a back surface of the substrate is free or substantially free of the surface coating.

31. The process of Claim 17 wherein, in the step of disposing over the first layer a surface coating such that a back surface of the substrate is free or substantially free of the surface coating, the surface coating is also formed on the periphery of the back surface.

Evidence appendix

None

Related proceedings appendix

None